IN THE CLAIMS:

1. (Currently Amended) A method for transmitting data in the form of packets, [[each packet including a header and a data field including at least one pseudo-header,]] the method comprising:

generating packets that include a header, a data field, and at least one pseudo-header;

formatting the packet header in accordance with the specifications of [[the one]]a first protocol;

formatting a pseudo-header [[within the data field of the packet]] in accordance with one or more additional constraints, such that the additional constraints substantially satisfy at least one additional procedure in accordance with the first protocol or a different protocol;

transmitting a data packet including a segment of data, a header and a pseudo-header to a receiving device;

receiving at least one reply packet from the receiving device, formatted in accordance with the [[one]]first protocol; and

determining the validity of the received packet based on at least one additional processing step after reception of the packet in accordance with the [[one]]first protocol.

2. (Currently Amended) [[A]]The method of claim 1, wherein the data packet transmitted is formatted in accordance with the specifications of User Datagram Protocol (UDP).

3. (Currently Amended) [[A]]The method of claim 1, wherein the data packet transmitted has a pseudo-header within the data field.

4. (Currently Amended) [[A]]The method of claim 3, wherein the fields of the pseudo-header are generated according to additional constraints.

5. (Currently Amended) [[A]]The method of claim 1, wherein the transmitting includes:

transmitting the data packet using Transmission Control Protocol (TCP).

6. (Currently Amended) [[A]]The method of claim 1, wherein the transmitting includes:

transmitting the data packet using User Datagram Protocol (UDP).

7. (Currently Amended) [[A]]The method of claim 4, [[where the generating includes:]]including the further step of:

generating [[the]]at least one field of the pseudo-header in accordance with additional constraints.

8. (Currently Amended) A system for transmitting data in a network, the data including at least one segment transmitted in at least one packet, the system comprising:

a memory configured to store instructions; and

a processor configured to execute instructions to:

generate at least one field of at least one pseudo-header after the protocol header and before the [[protocol]] data field[[; and]], which implements constraints on the formatting of the at least one field of the pseudo-header in such a manner to substantially satisfy requirements for procedures in accordance with a protocol.

9. (Currently Amended) [[A]]The system of claim 8, wherein at least one reply to the transmitted packet is received and processed.

10. (Currently Amended) [[A]]The system of claim 9, wherein the processor performs at least one [[additional]]checking step on the pseudo-header contained within the packet data fields upon reception of the reply to the transmitted packet.

11. (Currently Amended) A computer-readable medium having stored thereon a plurality of sequences of instructions, said sequences of instructions including [[instrucitons]]instructions which, when executed by at least one processor, cause said processor to perform the steps of:

generating packets having at least one field of a pseudo-header after the protocol header [[and before the protocol data field; and]], which implements [[implementing]] constraints on the formatting of [[the]]at least one field of the pseudo-header in such a manner that desired procedures in accordance with a first protocol or a different protocol are implemented without requiring additional memory resources to implement such procedures.

12. (Currently Amended) [[A]]The computer-readable medium of claim 11, wherein at least one reply to the transmitted packet is received and processed.

13. (Currently Amended) [[A]]The computer-readable medium of claim 12, wherein the reply received in response to a transmitted packet is verified by performing at least one computation using the pseudo-header field contained within the protocol data field.

14. (Currently Amended) [[A]]The computer-readable medium of claim 11, wherein the transmitting includes:

transmitting packets in accordance with the Transmission Control Protocol (TCP).

15. (Currently Amended) [[A]]The computer-readable medium of claim 11, wherein the transmitting includes:

transmitting packets in accordance with the User Datagram Protocol (UDP).

16. (Currently Amended) [[a]] The computer-readable medium of claim 12, wherein the reply is received in accordance with the Transmission Control Protocol (TCP).

17. (Currently Amended) [[a]] The computer-readable medium of claim 12, wherein the reply is received in accordance with the User Datagram Protocol (UDP).

18. (Currently Amended) A method of analyzing the header of one protocol in the context of the header of at least one other protocol, the method comprising:

identifying the prefix portion of the header of the one protocol that is common with the corresponding prefix portion of the at least one other protocol; and

identifying a next portion of the header of the one protocol that differs from the corresponding next portion of the header of the at least one other protocol; and

computing at least one constraint that is to be applied to the processes which can generate packets in accordance with the at least one other protocol without requiring additional memory storage resources.

19. (Currently Amended) [[A]]The method of claim 18, wherein the computing of the at least one constraint is done so that the packet generated in accordance with the at least one other protocol with the further addition of the at least one constraint will satisfy the requirements of the one protocol.

20. (Currently Amended) [[A]]The method of claim 19, wherein the [[the]]computing of the at least one constraint is done so that the packet generated in accordance with the at least one other protocol with the further addition of the at least one constraint will substantially satisfy the requirements of the one protocol.

21. (Currently Amended) A method of transmitting data as data packets, the method comprising:

receiving packets formatted in accordance with one protocol; and

applying them to the processing procedures designed in accordance with [[an other one]]a different protocol; and because of the subheader

generating replies to be transmitted in response to the received packets; and

transmitting the replies into the network.

22. (Currently Amended) [[A]]The method of claim 21, wherein the one protocol is Transmission Control Protocol (TCP).

23. (Currently Amended) [[A]]The method of claim 22, wherein the one other protocol is User Datagram Protocol (UDP).

24. (Currently Amended) [[A]]The method of claim 21, wherein the one protocol is User Datagram Protocol (UDP).

25. (Currently Amended) [[A]]The method of claim 24, wherein the other one protocol is Transmission Control Protocol (TCP).

26. (Currently Amended) [[A device of claim 20, further comprising:]] A device for implementing the method according to claim 20, comprising:

logic configured to receive packets in accordance with at least one protocol; [[and]]

logic configured to generate a reply and to transmit the reply into the network in accordance with at least one protocol[[.]]; and

logic configured to insert at least one pseudo-header field in the transmitted packet in accordance with at least one additional constraint.

27. (New) A method for transmitting data as defined in claim 1 including the further step of

using said constraints in said pseudo-header to implement at least one procedure in accordance with a desired protocol without having to store a substantial portion of the packet containing that psuedo-header in a memory storage device.

28. (New) The method for transmitting data as defined in claim 1 including the further step of

formatting said pseudo-header within the data field of the packet in accordance with one or more additional constraints without requiring additional logic circuitry to perform the steps of the procedures defined by the additional constraints.

29. (New) The method as defined in claim 1 including the further step of

formatting said pseudo-header in such a manner that the packet content includes a constraint that substantially satisfies one or more requirements of a different protocol, without requiring additional memory resources.

30. (New) The system as defined in claim 8 further comprising

an application layer for implementing an application layer protocol, and said application layer and protocol being modified or altered to allow the application layer

or protocol to ignore a specified number of octets of the data field, which are reserved for use by at least one pseudo-header.